OPTICAL DISC SYSTEM

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a divisional of U.S. patent application Ser. No. 08/420,899, filed Apr. 11, 1995, now U.S. Pat. No. 5,677,899, which is a continuation-in-part of U. S. patent application Ser. No. 08/376,882, filed Jan. 25, 1995, which is a continuation-in-part of U.S. patent application Ser. No. 08/105,866, filed Aug. 11, 1993, now abandoned, which is a continuation of U.S. patent application Ser. No. 07/657,155, filed Feb. 15, 1991, now U.S. Pat. No. 2,265,079.

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to data storage systems of the type that include a housing having an opening for receipt of a removable disc cartridge in which an information recording medium is mounted for protection. More particularly, it relates to a system for rapidly encoding and writing information onto optical disks in a high density format, and for reading and decoding the information written thereon.

2. Description of the Related Art: Overview

The demand for mass data storage continues to increase with expanding use of the data processing systems and personal computers. Optical data storage systems are becoming an increasingly popular means for meeting this expanding demand. These optical data systems provide large volumes of relatively low-cost storage that may be quickly accessed.

In optical disc systems, coded video signals, audio signals, or other information signals are recorded on a disc in the form of information tracks on one or both planar surfaces of the disc. At the heart of an optical storage system is at least one laser (or other light source). In a first operating mode, the laser generates a high-intensity laser beam that is focused on a small spot on an information track of a rotating storage disc. This high-intensity laser beam raises the temperature of the recording surface of the material above its Curie Point--the point at which the material loses its magnetization and accepts the magnetization of the magnetic field in which the disc is placed. Thus, by controlling or biasing this surrounding magnetic field, and allowing the disc to cool below its Curie Point in a controlled magnetic environment, information may be recorded

To the extent not already disclosed, the following U.S. Patents are herein incorporated by reference: Grove et al., U.S. Pat. No. 5,155,633; Prikryl et al., U.S. Pat. No. 5,245,174; and Grassens, U.S. Pat. No. 5,177,640.

While this invention has been described in detail with reference to a certain preferred embodiments, it should be appreciated that the present invention is not limited to that those precise embodiments. Rather, in view of the present disclosure which describes the current best mode for practicing the invention, many modifications and variations would present themselves to those of skill in the art without departing from the scope and spirit of this invention. The scope of the invention is, therefore, indicated by the following claims rather than by the foregoing description. All changes, modifications, and variations coming within the meaning and range of equivalency of the claims are to be considered within their scope.

ABSTRACT

A method for moving a carriage assembly from an initial position to a target position relative to a storage medium rotating at a circumferential velocity. The method includes the steps of determining a first radial distance between the initial position and a center of the storage medium, determining a second radial distance between the target position and the center of the storage medium, determining a circumferential distance between the initial position and the target position, determining an initial circumferential velocity of the storage medium, calculating a velocity trajectory relative to the first radial distance, the second radial distance, the circumferential distance, and the initial circumferential velocity, and moving the carriage assembly from the initial position to the target position substantially at the velocity trajectory. The velocity trajectory is calculated such that the carriage assembly will arrive radially and circumferentially at the target position at substantially the same time. Additionally, a target circumferential velocity may be determined, the rotation of the storage medium may be changed from the initial circumferential velocity to the target circumferential velocity, and the velocity trajectory is further related to the target circumferential velocity.